

NELP retirement plan meets delay

by David Jobbins

A scheme to avoid compulsory redundancies at North Essex London Polytechnic cannot be ready until at least a month after 62 lecturers are to be told they may lose their jobs.

A premature retirement compensation plan has been forwarded to the three London boroughs by the joint education committee. But committee secretary Mr Alan Hartley said this week that the authorities cannot agree it before October at the earliest.

The polytechnic administration is intent on sending out redundancy notices by August 31 to comply with the wish of the education authorities to give one year's notice.

But Mr Hartley dismissed suggestions that redundancy could not be notified because no final agreement on a PRC scheme had been reached. "This does not mean to say it might not be possible to name people for redundancy before the three authorities agree. You can name people for redundancy and then discuss PRC at a later date," he said.

The scheme was submitted to the boroughs too late for the current cycle of committees and cannot be on agenda until October. Even then, the joint committee expressed a major reservation about one aspect of the scheme, and if there are divergent views among the boroughs

when they have considered it, it will be up to this committee to pull things together.

North Essex has secured an agreement that where PRC is used to "facilitate retirement" in the interests of the efficient exercise of the employers' functions, the post will not be disestablished and the overall ratio of principal lecturers to senior lecturers and lecturer II's will not be adversely affected.

Where PRC is used in case of redundancy, the post will be disestablished.

All lecturers aged over 50 with four years' service are eligible to retire early without damaging their pensions and with substantial cash compensation. From age 55 both pensions and lump sums are inflation-proofed.

On legal advice it was decided that the government plan for the distribution of the 62 possible redundancies among the polytechnic's faculties was not a matter for decision by the JEC at its meeting last week.

According to the "development plan" involving withdrawal from Waltham Forest, reorganization on the faculty structure at Barking and Newham, and a move to higher student-staff ratios was also not discussed.

Although final decisions will eventually have to be taken by the education authorities, it has still not been considered by governors and cannot until October.

Labour Party drops idea of full-cost fees

by John O'Leary

The controversial proposal to charge full cost fees to former public school pupils in higher education courses has been dropped before reaching the Labour Party's national executive committee.

Members of the party's home policy committee decided this week to remove this option from its department on the public schools, which will go before the NEC later in the month. It has retained proposals to charge the schools for the training of their teachers and to clamp down on the closed scholarships at Oxbridge.

Mr Neil Kinnock, Labour's chief education spokesman, argued at the committee that students should not be penalized for decisions taken by their parents and that the party

should not go back on its commitment to open access to higher education.

The revised policy, if accepted by the NEC and the party conference, would commit Labour to removing public finance for those places reserved for pupils at certain schools.

But Dr Rhodes Boyson, under-secretary for higher education, has made a renewed attack on the policy, which he said was motivated by "dependence, envy and worst of all, destructive bitterness."

Labour should hold "another Bishop's Stortford conference" on the theme of equality versus individual liberty, Dr Boyson added. The right of parents to provide education for their children was an essential human right and personal freedom.

Inequality 'necessary in research'

Research, like competitive sport, is not an egalitarian activity. Bath University's pro vice chancellor, Professor William Gosling, warned this week.

Professor Gosling was speaking at the Conference of University Administrators' workshop on research grants and contracts in Bath when he stressed that different researchers within a team could provide different qualities for their project. Some were better as theoreticians, some as experimentalists and others were more able at understanding the industrial application of their work.

"A university department in which half of the academic staff are doing good research, a quarter are doing some research, and the rest none at all is a very much

more than average lively one and if it endures will establish an international reputation", he said.

Yet those who did not participate in research, and those who received less funding than others, should not be made to feel second-class citizens, Professor Gosling added. A supportive and harmonious environment was vital for good research.

"However, the necessary harmony within the group cannot be achieved by equality of treatment, since that will waste precious resources. Thus a well-managed research group is one in which the distribution of resources and also burdens is highly unequal, yet perceived by the group members, all of them, as being nevertheless not unfair."

It was up to university management to achieve this difficult goal.

Professor Gosling stressed the importance of ensuring that research maintained adequate links with potential industrial and government sponsors.

"The building up of a new possible sponsor is a valuable asset to any research team. It may involve office-holding, learned societies, unpaid work, Government committees, and like bodies and close liaison or perhaps consultation with industry."

Input of cash from outside represented a crucial stage in the evolution of research work as one of the most important, yet encouragingly unpredictable, and a group which could lead to financial injections, Professor Gosling added.



This illumination showing John Whethamsted, a 15th-century abbot of St Albans is included in an exhibition on the Benedictine Order which is being staged at the British Library in Great Russell Street, London, from today until November 30.

Fabians attack Government policies

Present Government policies likely to lead to a loss of diversity and spontaneity in education, the Fabian Society told the Select Committee on Education.

Although the need for a new policy in the education sector, and the proposals accepted, the proposed plan of subjects will only be a system, the Fabians said. It is like a system without a head—a system of detailed decisions about the distribution of resources and the way of courses is being devised. Wrong lines in our view, the Fabians said, given the broad decision of what that provides the context of these detailed decisions are they say.

The remedy, the Fabians say, is to establish a policy, either for the education sector alone or for the whole of higher education, a policy which covers both the binary line but has a committee dealing solely with the management of its implementation, and a committee dealing with the delivery of its implementation. A national body would be in producing guidelines for education, rather than being embroiled in the administration of them. This would be left to the local authorities and the local authorities would be left to the local authorities.

The Fabians claim that a factory alternative to the report's recommendations has been found. There should be much wider public debate on education, they say, and the report's recommendations should be updated. Higher education into the 1990s.

Course rationalisation in the tertiary sector will undermine capacity of the polytechnic sector, effectively and through the existence of the college system, the Fabians claim. It will subordinate both types of institution to greater bureaucratic control.

The Fabians also claim that the report's recommendations have been based on inadequate consultation of the nature of the tertiary sector.

Far from being an expendable academic luxury, it was already a major part of the national economy. The report would have a detrimental effect on the tertiary sector, the Fabians claim. It would be a step towards the destruction of the tertiary sector, the Fabians claim. It would be a step towards the destruction of the tertiary sector, the Fabians claim.

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Robin McKie on the background to the research councils' controversial proposals

Cutbacks stifle researchers

Cash cutbacks are now severely limiting the ability of the Medical Research Council to support new research, the Government has warned in the council's "forward-look" plan for 1981-85.

The document reveals that the council cannot fully contribute to the field of biotechnology—the process of using genetic manipulation of bacteria to produce therapeutic drugs, vaccines, industrial enzymes and chemicals—without increased funds, although the MRC believes it could make a unique contribution towards the techniques development in the United Kingdom.

While the council requires funds to support the present explosion of knowledge in cell and molecular biology, it cannot do so at the expense of the many other clinical and scientific elements in its portfolio, the MRC says.

But the council's proposals do include plans for clinical trials and studies of interferon, a naturally produced substance which is thought to destroy cancer cells.

According to the plan: "This programme will involve studies in two of the council's units and in an MRC-funded university centre; it will also require the preparation of interferences, initially on a limited

scale but eventually—if all goes well—on a large scale in a collaborative enterprise employing human leucocytes from blood donations as a source of interferons."

Other areas of investigation to be followed by the council will include a continuing programme of clinical trials of leukaemia treatment trials in gastric and bladder cancer therapy and in reticular tumours; chemotherapy investigations of ovarian cancer; and possible research into the radiotherapy treatment of prostatic and rectal cancer.

In general there is to be a major switch in policy to encourage clinicians to cooperate in fewer and larger clinical trials, thus avoiding the proliferation of small trials that produce no useful results."

The plan adds: "Large-scale trials in which the council would attach high priority for funding include breast cancer therapy, neutron therapy of various cancers, and lung cancer therapy."

There may also be a trial to investigate whether aspirin is of benefit in the primary prevention of coronary heart disease.

The MRC funding cutback also means that cash for capital build-

ing will be limited to a level of £1.6m a year by 1983-84. This will allow the construction of a new environmental epidemiology unit but "no further major new building can be funded in the forward-look period."

This will "severely limit" funding for the following projects:

- The £300,000 East Side extension for the cyclotron unit at Hammer-smith Hospital.
- The £1m immunoclinical unit and other developments at Oxford.
- A new £1m common cold research unit.
- A £500,000 tropical medicine research laboratory for The Gambia.
- A £200,000 radioisotope unit at Harwell.
- A £350,000 extension to the Glasgow ecology research unit.

The "forward-look" plan also reveals that the rent for the MRC's headquarters in London is to be increased from the present nominal amount to about £460,000 a year, a sum which will be taken from present research allocations.

The document also reveals that the 20 per cent reduction in research studentships introduced this year will be continued until 1985 unless the budget is increased.

Change in emphasis for PhD work

A series of radical changes are to be introduced in the Social Science Research Council's support of postgraduate training over the period 1981-85, the council pledges in its forward-look plan.

These will mean a reduction in spending on grants and research training—such as traditional PhD work—and instead money will be spent on research developments which are programmes of work, including those on children care and energy, initiated and controlled by the council.

There is also to be a new form of research training involving substantial taught components as well as a new scheme of collaborative awards in social science similar to the SRC's joint academic-industrial CASE research projects.

A total of £4,226,000 is to be cut from the SRC's present funding of postgraduate training, which has already been cut by 25 per cent by the present Government—over the period 1981-85. Further savings are to be made by cutting research grants, which are initiated by

academics and not by the council, by £518,000.

This will mean a reduction of £800,000 in the SRC's annual budget from the present 1980-81 level of £17,100,000, while a further £1,690,000 of the money saved will be used on increasing the level of the council's research development work over the next four years.

And the council warns that further reductions in its expenditure could result in "drastic decisions" which would involve withdrawal of support from one or more traditional fields of study completely, abolition of the bursary mode of support in management training.

Proposed Social Science Research Council expenditure for 1981-85

	1980-81	1981-82	1982-83	1983-84	1984-85
Research development	£2,846,000	£2,844,000	£2,959,000	£3,077,000	£3,384,000
Research grants	£4,268,000	£4,027,000	£4,188,000	£4,179,000	£4,114,000
Central services	£238,000	£274,000	£283,000	£287,000	£282,000
Postgraduate	£2,370,000	£2,882,000	£2,339,000	£2,270,000	£2,013,000
Administration	£1,582,000	£1,523,000	£1,523,000	£1,517,000	£1,517,000
TOTAL	£17,100,000	£16,300,000	£16,300,000	£16,300,000	£16,300,000

Time runs out for Oxford Bill—and 44 others

The private members' Bill which would have forced Oxbridge colleges to pay nationally-negotiated pay rates to their manual workers has shared the fate of 45 other attempts at back-bench legislation.

The Higher Education (Collective Bargaining) Bill was one of the bunch which failed through lack of time on the last day of the Parliamentary session allocated to back-bench aspirations to the statute book.

But its sponsor, Mr Reg Race (Labour, Wood Green), said:

"I shall be pursuing this issue."

An option remaining open to him is to re-introduce the Bill in the next Parliament later this year, if he is successful in the ballot for allocation of the precious time for its passage.

At Brunel, NUPE has established a post-entry closed shop believed to be the first in the university sector. A university spokesman said people recruited to the ancillary staff would be required to join NUPE unless they had strong reasons for not doing so, in which case they would have to pay their subscriptions to charity.

NUPE had sought a total closed shop for its 150 members at Brunel, most of whom are part time. But the university was not prepared to concede the demand.

College warns tertiary council of pitfalls in rationalization

Central institutions are a distinctive feature of Scotland's educational provision, responsive to changing needs, and a feature of the tertiary sector most worthy of retention. This is the view expressed by Queen Margaret College, one of Scotland's 14 central institutions, in response to the Council for Tertiary Education.

The college warns the council, at present reviewing the tertiary sector's structure and management, to avoid two pitfalls: the assumption that lack of effectiveness in all parts of the system, and the assumption that a new system, imposed by adjustments of the present system, will lead to perfect and permanent solutions.

The college suggests that the college of education be brought within the central institutions sector. Tertiary education is by another name of professional/vocational higher education within the public

New call for revision of fees

by John O'Leary



Lord Carrington

Statements by Lord Carrington, Secretary of State for Foreign Affairs, on British policy towards Third World countries have brought renewed calls for a revision of next year's fee levels for overseas students.

Questioned at the Select Committee on Foreign Affairs, Lord Carrington said the basis of Government policy would be to help the Third World with aid and technical assistance. Britain would respect developing nations' independence and non-aligned position, he said.

A memorandum submitted by the Foreign and Commonwealth Office also advocated close co-operation between Western countries in the face of the Soviet Union's attempts to spread its influence.

The comments provoked an immediate response from voluntary agencies pointing out the apparent contradiction between this policy and the Government's refusal to reconsider future fee levels.

Lady Pickthorn, for the Council for Education in the Commonwealth, said overseas students' fees were clearly relevant to Lord Carrington's approach. There was danger that Third World delegates to next month's Commonwealth Education Conference would be alienated by the fees policy.

High Commissioners at a meeting in London expressed concern over the size of the fees and argued the last of consultation. While accepting the right of any country to set fee charges, the Commissioners felt Commonwealth countries should have been consulted.

A spokesman for the National Union of Students said: "In view of the cut in the Overseas Development Administration budget and the introduction of full cost fees for overseas students, we can only say that Lord Carrington's remarks are true hypocrisy when set against the decision of his Cabinet colleagues."

Course boost for art and design

by Patricia Santinelli

A major boost to practical art and design education is to result from the introduction this autumn of the first Technician Education Council validated vocational courses in this field.

The courses which have been the work of TEC's art and design committee, DATEC, will be primarily geared to the needs of industry in the textile, graphic, and ceramics areas.

They are to be available first as diploma and certificate level with the introduction in 1982 of higher diploma and certificate courses which will enable students in this area to obtain mandatory grants for the first time. Eventually there should be a total of some 20,000 students on all level courses in 170 centres which TEC hopes will include a much higher number of girls than at present.

TEC says that by September there could be some 4,000 students starting on diploma and certificate courses if three quarters of the 280 submissions based on existing courses and received by DATEC are validated. By 1981 this could increase to 10,000 students.

Mr David Carter, chairman of DATEC said that he regarded this as the most exciting development in art education for a long time.

"It is not intended to be in competition with the Council for National Academic Awards courses in this area but to be complementary and provide standards in practical art and design education which are lacking," he said.

He added that previous lack of validation and awards in this area had meant the growth of a diversity of courses, not all of which had met the needs of industry. Now all the courses had to be designed by the colleges in consultation with industry and would fall to be validated unless they were.

The introduction of the courses does in fact mark a major attempt at rationalization of art and design education below degree level, first identified in the 1970s by the Gann report as an area in urgent need of reorganization.

It is now unlikely that TEC will become the national validation body for agricultural education courses below degree level. Consultations revealed insufficient agreement to obtain Government approval. It is thought that the latest proposals put forward by City and Guilds will be accepted and that this body will provide the framework for new courses in consultation with others such as TEC and the Business Education Council.

Lecturers back Scots colleges' fight

by Olga Wojtas

Scottish Correspondent

Scotland's education colleges have an important role to play in the country's future, and there should be increasing use of their facilities, according to the Association of University Teachers (Scotland).

The AUT(S) statement follows the announcement last week by Scottish Education Minister Mr Alex Fletcher that government plans for the colleges' future will not be preceded by a consultation document.

The AUT(S) says its policy is to preserve and improve educational opportunities for the people of Scotland, as young school leavers and mature students.

"We believe that the colleges of education in Scotland have an important role to play, not only in terms of direct training of teachers and in the additional roles of in-service training and retraining but also in coping with the larger number of mature students likely to be seeking re-training for new skills," says the statement. It adds that these are likely to be a higher proportion of the student body in Scotland because of employment patterns changes.

The AUT(S) points out that it has already expressed its views on the colleges in the Scottish Tertiary Education Council's present reviewing the sector's structure and management.

DES likely to remain OU's paymaster

A working party set up by the University Grants Committee to explore the feasibility of taking over direct funding of the Open University from the Department of Education and Science has late concluded its report and submitted it to the DES.

The recommendations in the confidential document will be discussed first by the UGC before it discusses its own proposals to the Open University in the autumn to seek its reaction.

A final decision on whether to transfer the role of paymaster is likely to be made before the UGC's new vice-chancellor, Professor John Thompson, takes office next January. It is believed that the transfer will involve little or no change in the DES.

Russian boycott angers chancellor

The University Grants Committee proposals on Russian tuition fees come under criticism from the chancellor of Heriot-Watt university, Lord Thomson of Mousfield.

Speaking at the university's graduation ceremony, Lord Thomson said they would mean closing down Heriot-Watt's Russian teaching.

"The question of the fee is a technical one, but the intention has been widely leaked to the press and communications have been based on inadequate consultation of the nature of the tertiary sector," said Lord Thomson.

Far from being an expendable academic luxury, it was already a major part of the national economy. The report would have a detrimental effect on the tertiary sector, the Fabians claim. It would be a step towards the destruction of the tertiary sector, the Fabians claim.

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John O'Leary reports on the education officers' conference

Student grants 'need new rules'

A new Diploma of Secondary Education should be introduced and made a precondition for the award of student grants, Dr Harry Judge, professor of education at Oxford University, said at the Society of Education Officers' conference in Leeds.

Dr Judge said the new qualification would not entail any interference in the curriculum nor any bureaucratic expense. The Secretary of State for Education, Mr Mark Carlisle, would merely decide on a spread of O levels to accompany one A level as the requirements for the diploma.

By setting a broad range of subjects, ministers could influence the curriculum without direct intervention. "It would change the operational values of the school system," he said.

Dr Judge included the diploma as one of his priorities for the 1980s, the first of which was to renege the way in which the education service sees itself. He urged the education officers to reassess themselves since exaggerated and self-defeating pessimism was one of the greatest dangers on the horizon.

The other major priority was further investment in the Post Graduate Certificate in Education and in-service training for teachers, which might have to involve the use of central funds from central government. In spite of its shortcomings, for primary education in particular, the PGCE was a preferable training route to the BEd, Dr Judge said and could become the sole teaching qualification.

Dr Judge repeated his preference for an element of student loans to allow awards to be spread more widely. The Institute of Economic Affairs' study *Grants or Loans* showed that the present system did not command public support, he said.

Mr Dave Aaronovitch, president of the National Union of Students, said public opinion had been grossly misrepresented in the survey, which purported to show that 62 per cent of the public favoured loans. "The authors of the report have made a pathetic, unscrupulous attempt to argue the case for student loans using flimsy data," he said.

Professor Harry Judge: diploma

Macfarlane's plan to combat shortages

Some employees made redundant in the closure of British Steel plants should be retrained as teachers of craft, design and technology, Mr Neil Macfarlane, under-secretary for education, told the conference.

Mr Macfarlane cited the British Steel redundancy as a potential source of teachers for shortage subjects. Wales and the North East and North West of England were all fertile areas for similar arrangements, he said at a press conference later.

Other options being pursued by the Government were the secondment of experts from other nationalised industries for set periods of teaching and the recruitment of those taking early retirement in a range of jobs. The Confederation of British Industry and the chambers of commerce would be consulted on the latter scheme, he said.

In addition, it was still open to local authorities to recruit teachers from abroad as long as standards were maintained. Exchange schemes were well established and would be encouraged.

Mr Macfarlane's main theme was his wish to establish an integrated system of provision for the 16 to 19 age group. "There is no doubt that we are in an era of great change in our 16 to 19 provision and that will not come about as a result of decisions taken by one person," he said.

Flexibility should be the keynote with routes existing from school to higher and further education, both full-time and part-time. Young people should derive sound bases for future study and training while receiving an education which promotes self-awareness, personal development and employability.

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Dean resigns in faculty reshuffle at Coventry

A major reshuffle of social science teaching at Coventry (Lanchester) Polytechnic is to be put into effect from September.

The former social science faculty is being split into two faculties, business and social science and public policy. The dean has taken sabbatical leave until his resignation in August next year.

Deans of the new faculties are being selected from among the heads of the departments involved in the reorganization. Initially the appointment of faculty heads will be for one year while governors keep the restructuring under review.

Polytechnic director Mr Geoffrey Holroyde said the clear intention is that tenure should be for 10 years. Mr Holroyde described the existing social science faculty as a "disparate collection of disciplines which did not knit together so obviously as, say, engineering."

Governors have linked together the departments of business studies, management, economics, and legal studies into the new faculty of business. The other two faculties are associated departments from the old social science faculty are to become the new faculty of social science and public policy.

"Only time will tell if it works," said Mr Holroyde. Associate deans of the new faculties are to be appointed by the governors. Mr Holroyde was prompted not so much by the reshuffle as by a threat by the government to sack him before his inquiry into his performance of his duties.

Mr Heister has been granted sabbatical leave until the end of August next year, when a resignation becomes effective. Despite a statement at the end of March by the chairman of the Coventry education committee, Councillor Charles Ward, that Mr Heister had been granted sabbatical leave and did not intend to return to the polytechnic, Mr Heister was due to face the inquiry.

The same day *THESE* spoke to Mr Holroyde, an internal memorandum confirmed the resignation. Former colleagues are aware that it should be known that a hearing said to be faced by Mr Heister did not take place. It was cancelled in the light of the resignation, Mr Holroyde said this was clear.

Mr Heister is not prepared to talk about the events, but it is clear he was convinced that the weeks after being relieved of his duties no accusation had been brought against him.

Association lays plans to stop threat to television units

Threats to the survival of educational television units in all institutions will be countered by a new association, Mr Peter Turner, national chairman of the Educational Television Association, said at the conference.

Mr Turner said the association would represent all higher education institutions as well as schools, points out that the major threat comes from senior colleagues and administrators in positions of influence. He says that these people are not always aware of the value of television as a teaching medium.

Mr Turner says television facilities represent efficient capital expenditure providing a tool which can preserve the effectiveness of teaching and learning in a period of uncertainty.

"Therefore we must transfer our enthusiasm and knowledge of the effectiveness of educational television to those in positions of power, and not let 45 years of expertise in the field be assimilated to short-term expediency," he said.

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Year of the sunworshippers

North American News
from Clive Cookson

Although the sun is by far the most important celestial body for life on earth, it has been relatively neglected by astronomers, who have preferred either to examine the moon and planets or to gaze at much more distant, exotic objects like quasars.

This year, however, it is the sun's turn: 1980 is International Solar Maximum Year and hundreds of scientists from 18 countries are taking part in coordinating observations of the sun from ground observatories, rockets and spacecraft. This cooperative effort should add substantially to our scanty knowledge about the way the sun releases its energy.

The heart of the international project is the Goddard Space Flight Centre, where 78 scientists are working with observations from the National Aeronautics and Space Administration's new solar maximum spacecraft, Solar Max, which is called, has been orbiting the earth since February. Its seven instruments pouring back for more data about the sun than the overworked scientists have been able to digest.

The particular focus of Solar Max is on solar flares. These are sudden, extremely violent eruptions from the surface of the sun, which can release as much energy as 10 trillion one-megaton H-bombs, within seconds.

Flares are closely associated with sunspots, which are centres of intense magnetic activity. The spots themselves are cool and quiet, because magnetic fields beneath them suppress the normal rise of hot gas to the sun's surface. But they are surrounded by the hottest, most energetic regions of the solar atmosphere, from which flares sometimes burst forth.

Solar Max is timed to coincide with the peak of the 11-year sunspot cycle. By good fortune, this year's maximum is turning out to be the second most active since Galileo first detected sunspots in 1610. The most violent flares of all usually occur on the downside of the cycle—no one knows why—and there has not yet been a really intense "super-flare" this time round. Such a flare sends a shock wave through the solar system, followed by a blast of hot gas which causes a "magnetic storm" on earth. It may black out long-range radio communications for hours, trigger spectacular displays of the Northern Lights, and induce surges in power transmission lines (some scientists fear that the latter could, in extreme cases, lead

to extensive black-outs right across the world).

Each instrument on board Solar Max records radiation over a different portion of the electromagnetic spectrum, from gamma-rays to visible light. British teams, supported by the science research council, are involved in two of the three X-ray detectors.

Six men from the Mullard space laboratory (part of University College London) and six from the Applikon Laboratory (run by the SRC) are managing the "soft X-ray polychromator", which they built with the Lockheed research laboratory in California. It uses two detectors, known as the bent crystal spectrometer and the flat crystal spectrometer, to examine the hot plasma (up to 30m degrees) generated as electrons are ripped away from the solar gas at the beginning of a flare.

Four men from the University of Birmingham are co-operating with Dutch scientists from the University of Utrecht on the "Hard X-ray imaging spectrometer". It can detect X-rays from an emerging flare very rapidly and send a signal to the other instruments on Solar Max, which then focus on the same spot, so that a movie film of the flare can be obtained at the various different wavelengths.

The seven scientific teams managing the different instruments are all working from offices in the same building at Goddard, and they assemble at least once a day to coordinate plans and discuss findings. "By having everyone collected together here, they have achieved a degree of coordination that is unprecedented for such a complex project", said Christopher Rapley, of the Mullard Laboratory.

So far, the Solar Max scientists have obtained a full range of data on two major flares which occurred on April 30 and May 21. They have not yet had time to analyse much of the information or draw any firm conclusions, but they do already have some clues about the possible origin of the April 30 flare. It was apparently triggered when a gas-filled magnetic "loop" arching over the solar surface, rose up and "collided" with a second loop above it.



The Solar Maximum Mission spacecraft, launched February 14.

Professors vote to censure abusers of academic freedom

Nichols College in Massachusetts did not permit a faculty member to complete the academic year after he complained to the student newspaper and to the institution's trustees about being denied tenure.

Philander Smith College in Arkansas dismissed two faculty members, each with at least six years of service, after they appeared before the trustees to present the grievances of students who had boycotted classes in protest of the condition of campus facilities.

Olivet College in Michigan dismissed a faculty member without a hearing in the middle of a semester for allegedly failing to conduct one of his three courses satisfactorily.

These are apparently only a few of many recent violations of academic freedom on the campuses of the nation's institutions of higher education. The professors' association found little consensus in the Lynchburg College community, let alone the academic community generally, in support of the president's belief that the members' domestic arrangements amounted to moral turpitude.

Censure would probably have been voted in the Lynchburg case, but the college, also under pressure from a court suit brought by the dismissed faculty member, finally agreed to resolve the case to the teacher's satisfaction.

All three of the institutions remained from the censure list at this year's annual meeting of the Association of University Professors. In these situations, however, the cases were investigated by the association, which voted last week at its annual meeting to censure the three colleges.

In a state of much progress in shoring up the concept of academic freedom, the right to due process of faculty members at some colleges and universities seems to depend on the whims of administrators and trustees. The professors' association has led the fight to convince institutions that they should follow prescribed rules in their treatment of faculty members.

The association has no official power to compel an institution to change its policies, but a vote of censure is meant to inform the public that an institution is not observing generally recognized principles affecting academic employment. The vote must show that it has remedied the abuses in order to be removed from the censure list.

Getting the trustees and legislators to accept the judgment of one's peers on competence to teach is a very important achievement of the association, said Gordon E. Kurland, associate general secretary of the Association, and head of its academic freedom investigation staff.

Academicians think that moves to protect faculty members are especially important now for two reasons: The growing pressure on colleges and universities to hold down costs, and what some perceive as a shift to the right in national attitudes.

Faculty members at more than 75 per cent of the nation's institu-

tions of higher education are not covered by union contracts and have only good faith to protect their right to due process.

Apparently the fact that an organization like the American Association of University Professors continues to look after the interests of faculty members helps put pressure on institutions to deal more fairly.

In one of the cases that the Association examined last year, for example, a female physical education teacher at Lynchburg College in Virginia had been dismissed without adequate notice after the school's president determined that she and a man had been living together but were not married. Her college-owned home happened to be next door to the president's house. The investigating committee found little consensus in the Lynchburg College community, let alone the academic community generally, in support of the president's belief that the members' domestic arrangements amounted to moral turpitude.

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Early warning on pay problems

More than 400 education officers demonstrated their concern over narrowing pay differentials among attending a meeting of their "trade union" wing at 8.45 am on Sunday.

The early start was designed to facilitate business at the conference and was also expected to dampen enthusiasm. In the event, it served to underline the depth of feeling on the subject of pay among the membership of the Association of Education Officers.

A resolution was passed demanding that differentials between teachers and officers should be reduced, with the case being put to chairman of such education authority. Meanwhile, the association will continue to press for the

Houghton Differentials Working Party, suspended last year, to be reconstituted.

The officers are concerned that teachers who would previously have progressed into administration now find it financially more rewarding to take less responsible posts in teaching. Some chief education officers earn less than polytechnic and college principals, while those on lower grades are paid less than senior teachers.

Education officers below the rank of deputy have turned down a pay offer of 13 per cent, while those above have asked for a substantial increase and are hoping for at least 20 per cent.

Polys 'not ready to compete'

It will be 10 years before the polytechnics are ready for equal competition with the universities and the ending of the binary system, Sir Norman Lindop, director of Hatfield Polytechnic, told the conference.

Sir Norman said he believed the binary system could survive and he wished it to do so until the public sector was capable of holding its own. This was not the case at present, partly because the public sector had been starved of capital

and could not react to change as easily as the universities. It was an uphill, mainly fruitless task trying to interest local councillors in the affairs of polytechnics, he said. Their position was not helped by the regional advisory councils, which were a farce in some areas.

However, he did favour national planning of higher education, although he did not believe further controls were needed by the local authorities.

Merseyside firms get research aid

Liverpool University and Polytechnic have jointly agreed to support the establishment of a Merseyside Innovation Centre which could help to create more jobs in the area.

The aim is to bring together the research activities of the university, the polytechnic and the county council to help local firms introduce new technology and manufacturing activities.

The £400,000 centre is to establish a unit to provide research and development expertise for the local business community and to provide accommodation for tenant organisations. The unit will also provide a range of services to help local firms introduce new technology and manufacturing activities.

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Vice-chancellors elect chairman

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Clegg talks

Technicians' leaders expect to meet the university employers early next month on the outcome of the Clegg report on their pay, likely to be translated to the Prime Minister's office.

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Scots respond to maths shortage

Heriot-Watt University and Craiglockhart College of Education in Edinburgh, will introduce a new course in response to the grave national shortage of teachers in secondary mathematics.

Students taking the course—to be called Bachelor of Education in Mathematics—will earn a degree in mathematics, from the university, and a diploma in education from the college.

Professor James Gray, dean of the faculty of science and head of the department of mathematics, said: "I hope this joint initiative will make an effective contribution to the supply of mathematics teachers in our secondary schools."

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Lancaster opens to part-timers

Lionel Cohen examines the double purpose behind Holland's unique educational experiment

The Dutch OU: second chance or second best

Holland is to have an Open University by 1983 the Dutch Education Minister, Dr Arjo Pels, announced last month.

The announcement represents a victory for a key group of "progressive" Dutch academics determined to modernize the international image of Dutch higher education and the end of five years' planning.

The OU's headquarters are to be set up in the border city of Heerlen and many of its 24 study centres will be within easy reach of international boundaries. The world's first Dutch language OU is expected to develop an international role, attracting participants from Dutch areas of Belgium as well as from the more remote regions within the country at present isolated from established university centres.

What makes this particular experiment unique is that it will not be a "university" at all. Unlike its British counterpart, it will not restrict its activities to the field of adult higher education but expects the bulk of enrolments to be from young students, in many cases recent school-leavers, who will use the OU's distance-learning facilities to fit technical or professional employment qualifications, rather than an academic degree.

The essence of the Dutch plan is that OU entry will create for the students a wide variety of intermediate educational possibilities from which they may make choices, rather than being faced with the need for a large, fixed and long-term commitment associated with a traditional full degree-level programme.

The viability of these intermediate study options from the students' viewpoint is closely linked to the use or value of each course completed. Under the British system, the successful completion of individual courses has a functional value to the student only so far as it occurs in a study programme.

The academic development of the individual and his or her personal satisfactions are not questioned. This latter concern is even less important in Holland, where the OU works towards academic qualifications and employment prospects ensures that the study motivation of most Dutch students is more often directly related to the uses in which particular qualifications may be put.

Consequently, through the use of common course "modules" to serve both academic and vocational levels of study, the Dutch OU will enable students successfully completing each course unit to receive credit points which can be used, not only to build up towards an Open University diploma, but also to satisfy a variety of vocational and professional qualification requirements, or even to be transferable to certain "conventional" university study programmes. In short, the plan is to create a "value-transferability" for OU course credits throughout Holland's post-secondary education system.

This universality of the OU course credit system directly reflects the universality of the Open University's function in the educational structure: a function squarely based on the creation of a sufficient number of opportunities for government to the introduction of greater flexibility, but which up to now has institutional boundaries.

The new university is planned to function as an institution of the new through which academic knowledge can be matched at a national level. The universality of the conservative Dutch universities to international change has been a barrier to the development of a more open and flexible system of higher education and to the introduction of the two-tier structure reforms now planned. A more open university would have been able to attract students from other countries and to encourage academic exchange between Dutch and foreign universities.

expected to pioneer the introduction of integrated course structures and individual tutorial teaching methods of a type not used in the country. For example, essay writing (assignments) and the continuous assessment method of measuring and evaluating students' study progress will be used for the first time and, it is hoped, will serve as a trend-setting example for the older institutions.

Operating a successful OU on the basis of its relatively tiny budget—some £30m over the first four years—offers potentially substantial long-term savings for the government's soaring education costs, particularly if students are attracted away from the uneconomical older colleges and universities. This is not the stated aim of the OU, but it is clear from the report published by the Open University Preparatory Committee that the wider the net can be cast and the more students attracted to enrol, the greater will be the economies of scale achieved.

Initial projections were based on an expected student intake of 20,000, to which the minister added a possible 10,000 expected to register for a few courses. This was based on the preparatory committee's recommendation that the minimum age for enrolment should be 21 years. The Dutch Liberal Party moved in Parliament last month to reduce this minimum age to 18 years, a politically attractive innovation, but one which may well make nonsense of some of those early projections.

The ideas behind university have changed substantially since those originally put forward by former education minister, Mr J. A. van Kemenade, in March 1977, when he foresaw a much more limited and specialized role for an institution which would provide a part-time higher education courses for those working adults who had either never had the chance of undertaking university studies in earlier years or who had to put any idea of this out of their mind at the time.

A close coupling between this original model of the OU and the "Open School" adult education experiment pioneered by Mr van Kemenade was thus a logical corollary, so that in opposition the former education minister has been a leading critic of the present government's drift away from the idea that the OU must necessarily have a function firmly rooted in the adult education sector. During the education and science committee's examination of the OU Note, Mr van Kemenade attempted to delay further progress in the plans for establishing the University until the government publishes its proposals for the general reorganization of adult education in Holland later this year. This met with little political support, even from Mr van Kemenade's own party, which would wish to be charged with holding up such a potentially popular project in the year prior to an election.

On the other hand, the willingness of Dr Pels to accept a Liberal motion to lower minimum OU entry age from 21 to 18 years may have been politically expedient but will clearly raise some practical difficulties. In particular, the possibility that 18 year olds, unable to gain admission to "conventional" higher education institutions, could then opt for the OU as a "second choice" could place a severe burden on its tutorial services and risk undermining its academic reputation from the outset.

Professor R. A. de Moor, tiller of the OU's affairs, is a member of the preparatory committee and the highest education development committee, which proposed the OU and who, as chairman of the Open University Foundation, thinks that this is not a "second choice" but a "second chance". He believes that the OU will be a "second chance" for those who have not had the opportunity to undertake higher education in the past. He also believes that the OU will be a "second chance" for those who have not had the opportunity to undertake higher education in the past. He also believes that the OU will be a "second chance" for those who have not had the opportunity to undertake higher education in the past.



Top: Testing time for Holland's young hopefuls. Left: Former education minister, Mr van Kemenade wanted the university to offer working adults a second chance to study.

lectural capacities needed to develop, for example, certain mathematical concepts, may well be not just equal, but actually higher in given vocational college courses than in the universities, but an egalitarian society hesitates to accept this," he said.

However, if it is accepted that course requirements of the different type of educational institutions do overlap, then it becomes much easier to propose that whole study programmes can themselves overlap. In a similar manner, within the context of this overlapping some students may be able to cope with the full programme, while others would need a lower study load. In either case it is Professor de Moor's view that the matching of student capacities to course requirements is closely linked to the general orientation of study programmes.

In Holland, traditional university courses tend to be more discipline-oriented in contrast to the courses offered in vocational and higher technical colleges which have a consistently more practical orientation. The objective of OU courses designing must therefore be to secure a balanced overall orientation through a system of horizontal, that is equivalent, course units, so that programmes will be based on the American criteria of the number of course credits completed, rather than the Anglo-Saxon method related to the level of overall academic attainment.

The existence of two separate levels of final achievement under the Dutch system for OU diplomas of either a "second level" or a "doctorandus" (first degree level) qualification for graduates implies a distinction between the cumulative intellectual capacities of the students concerned. Professor de Moor accepts that this contradicts the egalitarian ethos of the OU, but he says the need to equate the higher doctorandus qualification with that of the similarly named graduate qualification given by the conventional Dutch universities makes it necessary to retain this distinction of academic levels.

Certainly the Open University Preparatory Committee have throughout emphasized the need for close cooperation between the existing Dutch system of higher education and the OU. The latter, in the view of the OU's international academic courses and qualifications, do not have the necessary success

for which purpose the minister will establish an external degrees and diplomas committee, but also through the necessity of fulfilling most of the OU's staff requirements by "borrowing" Dutch speaking academic personnel from Dutch and Belgian universities. Holland's Academic Council, of which Professor de Moor is a member, has made strong representations on the need to legally structure such inter-university cooperative arrangements in the OU statute, which is to be prepared by the ministry over the coming year. "The success of the OU will be 95 per cent dependent on other people's experience," Mr van Kemenade said. "The OU will thus be conceived as a valuable supplement to other higher education," said Professor de Moor.

On only one point does the OU chairman admit to having "reservations": that is, the question of the proposed lowering of the minimum entry age to 18 years. "It opens possibilities for developing forms of recurrent education, that is for combining periods of work and study to varying extents over an extended period of time. This may have positive advantages for some but the risk remains that, because the OU is designed as an 'open' institution, it may attract some younger students who lack the social or work experience that, by 21 years, may compensate for deficiencies in formal secondary education."

Professor de Moor fears that what the OU has to offer may not be "appropriate" for the 18-21 year olds and that it could run the risk of gaining a "second rate" label. "It attracts too many young students especially if, as he expects, a disproportionately large number of them then 'drop out'." But he does not think that the majority of young students who could secure entry to university would opt for the OU when they could enjoy the pleasant life of ordinary university life.

Student drop-out rates are forecast at around 60 per cent by the OU Preparatory Committee. This leads to the question of how Holland's Open University with its many levels of leaving qualification will measure the extent of its success. Much depends on the intention of the students concerned, since, in Professor de Moor's words, "we do not have the necessary success

according to the number of graduates—some of our students may only need to complete a few courses—so that we will have a different meaning for the OU than in the traditional universities.

For example, the student who fails to complete the full degree but gains the diploma would be marked as a success. The difference between the OU criteria and of the traditional universities is the drop-out in traditional universities is related to the intention of the student and the intention of the student to change these intentions over a period of time," he said.

There is no element of flexibility in the concept of an Open University education on the Dutch pattern. Students who stop studying are considered to have failed. If they would not only receive a transferable academic credit in the course recording that success—which could be used towards other studies, but also as a valuable function for the OU in periods of high unemployment, periods in which an increasing number of people are unable to do so within the structure of a conventional university programme, unless they are able to expect to pursue a discipline oriented study programme.

Only three years earlier, as chairman of the Social Science Council, Professor de Moor was a member of the committee for the proposed new university. He wrote that past experience suggested that neither the necessary legal structure, nor the personal policy needed for such a revolution, were likely to be forthcoming. "There remains the question of whether our new laws or policies would be able to break through the deep-rooted traditions and interests in a university where the influence of those who resist change remains so great."

This question remains unanswered, but there can be no doubt that the successful launching of this radical experiment would be a long way towards creating the kind of breakthrough

War and peace studies bring dons and generals together to discuss national defences

Bad news is good news on the peace front

Peace is in the news again with the proposed deployment of American cruise missiles in Britain and deterioration of East-West relations are arousing growing public concern.

For the School of Peace Studies at Bradford University the revival of interest, most recently demonstrated by the massive disarmament rally in London, is one of the most heartening developments since the halcyon days of the Campaign for Nuclear Disarmament's Aldermaston marches in the late 1950s and early 1960s.

As James O'Connell, professor of peace studies, put it: "Now peace is very much in the news again. The issue has come back in."

The threat of a global holocaust has emerged once again as a subject of crucial contemporary debate, aspects of their work may become increasingly pertinent to those interested in discussing disarmament and related issues.

How can one promote harmonious relations between states? It is possible to avoid destructive violence by substituting some form of "creative conflict"? In what ways can the number of missiles be reduced? These are the kinds of questions which have been the staple diet of the department since its inception.

Originally founded to study how peace might be achieved and maintained, the school began life as a postgraduate institution in 1974, starting to offer undergraduate courses a year later. Today it offers the only opportunity of studying for a first degree in peace studies in Britain.

"Peace is taken to mean something more than the mere absence of war", according to the undergraduate prospectus. "By peace is meant a positive combination of justice with a lack of violence ensuring that no nation is able to achieve together what they could not have done separately."

In contrast what is described as "an unpeaceful relationship" is one in which one or all of the parties concerned suffer damage of a directly physical kind like war or of an indirectly physical kind as in oppressive or exploitative situations or of a psychological kind, for example, when a powerful or privileged group creates a sense of humiliation or inferiority in others.

The 10 full-time and several part-time members of staff, who teach 84 undergraduates and 22 postgraduates, all share the belief, putting it at its most simplistic, that "peace is a good thing".

Differences exist, however, between those who believe that in certain circumstances a "just war" or violence may be necessary to advance social justice and other members of staff who believe that violence is unacceptable at any time.

"I think what would be shared is an extreme reluctance to accept war as a solution at any time," says James O'Connell.

Nigel Young, deputy chairman of the school, draws a parallel between peace and medical research. "The assumption is that war, particularly nuclear war, is pathological for our species and not normal. One wants a notion of health. We are looking for what a healthy society could be like. A healthy society is one without war."

"It could be too late," he adds. "You could say this is just an existential posture. At least we are aware of the situation and trying to do something about it."

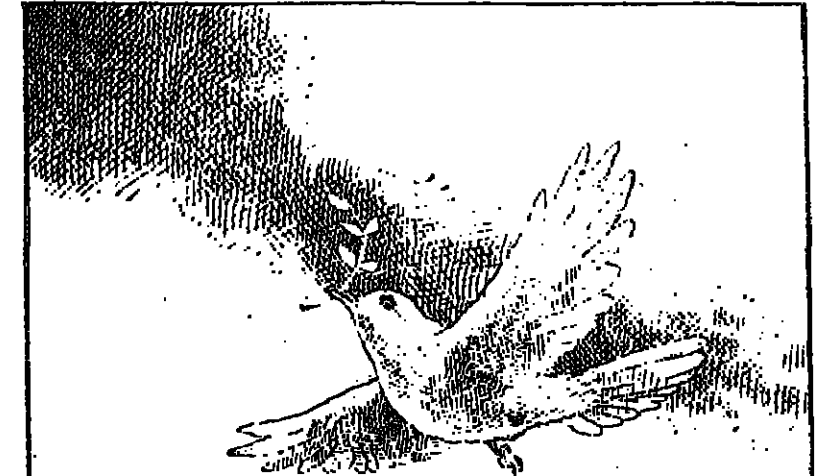
Professor O'Connell says: "Peace is not an absolute value. The only absolute values I would accept are truth and love. Nevertheless as St Augustine said 'peace is a value that everybody wants'."

Although members of staff differ in their definitions of the area of study appropriate to peace studies and in their ideological approaches, they all share a conviction that peace studies in a university setting is especially relevant to human debate.

Peace studies is an applied approach, they admit. In the words of the undergraduate prospectus this means: "a department of politics which considers relations between nations but peace studies seeks to promote harmonious relations between them; an Institute of strategic research may count nuclear missiles but peace studies in counting missiles also asks how they can be reduced in number or eliminated."

Nigel Young explains: "All scientific and social scientific research does have a value dimension. I don't think that anybody can escape from a method of approach that is not evaluative. The important thing is to be honest about it. Not to fudge the data. To be good scientists and still recognize that you are a human being."

He is keen to emphasize that this does not mean that members of the school lack "critical detachment". He and his colleagues apparently share the belief that the search for truth and peace are not mutually incompatible.



In this sense they differ from many of the more well established departments of war, conflict and strategic studies which aspire to a value free approach to their subjects.

Other departments' claims to "objectivity" are regarded with a certain amount of scepticism within the school. There is a feeling that in some way such schools take the existence of war for granted, as an inevitable fact of human life. At the extreme there is perhaps a suspicion that war or conflict studies are ultimately in the business of facilitating the more effective execution of war.

Peter Van Der Dungen, a lecturer in the department, characterizes the difference in approaches as being between preparing for peace in

order to end war and preparing for war in order to ensure peace.

The history of peace research in Britain is in a sense paralleled by the history of the School of Peace Studies in Bradford. Over the years the changes in emphasis within the school have been mirrored by changes that have occurred within the department.

"Early peace research was principally concerned with policy, with inter-state violence, with preventing World War III, and with trying to influence government through its research," said Nigel Young. "Its critique was of the overt violence of war, but not of the structures implicit in the state and inequalities within and between states... for example of social class or underdevelopment."

to abolish it, improve its techniques or just to study it.

What most interested the soldiers was the vexing problem of how to train officers so they become clever enough to win wars but not so clever that they lose faith in their work. Officers and civilians who run higher education courses in strategic studies in special military academies, like West Germany's Bundeswehr universities and the pattern variables backwards. He was one example of the military/academic hybrid which is a common feature of the discipline variously known as war, peace, conflict and strategic studies.

Others included Pierre Dabois, a former French paratrooper colonel and now professor of political science at the Sorbonne, and Dr Alan Sabrosky, a professional marine whose experiences in the Vietnam war had persuaded him that by becoming an academic in the field of conflict studies he could shake up American defence policy more effectively than he could as a professional soldier.

Among the British participants there was a clearer distinction between the servicemen, whose preoccupation at the seminar was with professional questions of officer training, and the civilian academics who were united by a common interest in war, peace, conflict and strategic studies.

whether academics were in business

As the movements of the New Left grew and as wars of liberation in the Third World escalated the peace research and education movement underwent a profound change. The focus of attention was switched from the physical violence implied in war to the structural violence regarded as inherent in capitalism, imperialism, colonialism and the state itself.

It was within this general context that the department of peace studies at Bradford was born. In its early years the school swung too far perhaps in the direction of being a department of social change. The definition of violence and there fore ultimately of peace studies was too broad. Demands for a "just peace" led to the subject becoming too diffuse, a burgeoning portmanteau becoming ever more capacious in response to student demand but increasingly debilitated by a receding sense of direction and focus.

The problem was partly compounded by the school's early aspirations to be an "activist" as well as an academic community. The relationship between peace studies and peace activity was insufficiently thought out. For some years there was a continuing debate about how much academic credit should be awarded for what in any other academic department might be regarded as extramural activity.

The mid to late 1970s were also heady years for political campaigners in Bradford. The National Front, Northern Ireland, the Middle East and feminism were all issues that seemed to demand an active response from a School of Peace Studies. At times it appeared that the students wanted to drag the department into the fray as a political organisation pushing a particular line.

Today in common with the peace movement generally the school has reverted to a more focused concern for what was originally regarded as the core of peace studies, namely ways of achieving peace and avoiding war, especially nuclear war.

Now the emphasis is on academic standards first and activism second. In redefining its prime concern the school has set itself clearer academic targets. Courses on the periphery, for example, comparative religion, comparative education, social control and patterns of inequality have been shed.

Much of the credit for the changes that have taken place must go to James O'Connell who took over the chair of peace studies nearly two years ago. He has managed to transform what was a woefully school concerned with social change into one vitally concerned with peace.

Widener Bradford University's School of Peace Studies will ever be able to influence our planet's destiny remains to be seen. One thing however is certain. As James O'Connell says "peace is an ideal worth constantly striving for." Whether a university is the place for such an odyssey however is more open to debate.

Simon Midgley

Out of the classroom and into the battlefield

Generals worry about what they call the "fog of war", that elusive something which makes plans go wrong when battles begin. On the evidence of an unusual seminar at the North East London Polytechnic last weekend, they might be just as worried about the fog of war studies, an academic discipline that appears to be as confused and highly disputed as any battlefield.

It is also a discipline which attracts some very peculiar people as out of the ordinary from the start on Friday when the polytechnic minibus whisked a cargo of leathery Westpoint colonels and pallid dons from Lancaster through a desultory CND demo at the front gate of the Anglian Regional Management Centre. The conference had acquired local notoriety after being grandiosely and untruthfully labelled by its critics as "a course for NATO generals".

In the event the only general present turned out to be a guest from the United States, Lieutenant-General Robert Gard, who commands the National Defence University in Washington. He humoured his hosts by posing for photographs in the canteen, before being politely but firmly ushered out the door by the security guard.

The burlesque did not stop there. It resurfaced on Sunday in the person of Mr "Bud" Vestermark, Junior, a man of truly immoderate proportions and vice-president of a multinational oil company which he refused to name. Mr Vestermark, who had spent much of the weekend, hunting darkly over dinner at the ill-fated Eagle's Claw hostage raid, had been "sabotaged" in a closing speech for big business vigilante armies to wipe out terrorists when governments proved too squeamish to act for themselves.

He also told the seminar that too many academics involved in war and peace studies were lingering in late adolescence intellectually, a state of affairs which was of little help to multinational corporations with vast assets to defend. At the end of his talk he distributed pamphlets extolling the virtues of "surge" or "private industrial security" and would be more potent versions of "event" (special weapons and tactics teams) set up in 1968 by the Los Angeles Police Department.

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It was all too much for Dr Malcolm Dando, a lecturer in Bradford's peace studies department who had hitherto shown a polite and pacific nature. He leapt to his feet, apologized in advance for being offensive to a guest from the United States, and told Mr Vestermark that the world would

be a much safer place if Mr Vestermark were to stop rubbing around. Later he said to him in the bar: "Frankly, you frighten me stiff. You don't know what you are about. It is just rampant imperialism."

But Mr Vestermark, it turned out, was no simple cultural stereotype. He had studied sociology under Talbot Parsons and knew the pattern variables backwards. He was one example of the military/academic hybrid which is a common feature of the discipline variously known as war, peace, conflict and strategic studies.

Others included Pierre Dabois, a former French paratrooper colonel and now professor of political science at the Sorbonne, and Dr Alan Sabrosky, a professional marine whose experiences in the Vietnam war had persuaded him that by becoming an academic in the field of conflict studies he could shake up American defence policy more effectively than he could as a professional soldier.

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a resounding no. Dr Sabrosky told participants that there had been considerable convergence in method, ideology and the focus of research between "the two cities" of war and peace studies.

Westpoint's Colonel William Taylor, on the other hand, was agnostic at a suggestion that his cadets should be taught "peace studies". "I would not want to introduce such a thing at the military academy. I do not believe in peace at any price. I believe there is a lot of quickly in the peace studies movement."

The polytechnic staged the seminar because it believed it had spotted the absence of an international forum which could bring together the soldiers and the academics involved in the study of national defence, military history and international relations. Despite the wide scatter of disciplines, professions and ideologies represented, participants felt they had benefited from the debates and would welcome another meeting.

Dr Strachan, in particular, wanted universities to take the subject more seriously. As long as the demagogues regarded war as an abstraction and avoided studying it the military had a monopoly of the conventional wisdom in the field.

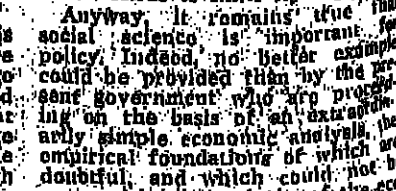
Peter David

Journalist

The average social-science researcher must have the talent of Houdini to disappear into three years of PhD study, argues Michael Herbert

and objectivity

What was required was ministerial responsibility, not a cabinet. I was ministerial, and I knew the difference. I was ministerial in insisting on getting things done. I believed, proved that I did, that circumstances, officials were sufficiently motivated and possessed



The author is professor of economics at Queen Mary College, University of London.

...selves are: Is this state of affairs necessary and is it inevitable? attempting to provide a sugges-

In contrast, David's interests were very much concerned with the history of the cooperative movement.

The author is a third year student in social sciences at the Don School of Economics and Political Science.

What happens to each of the aspects when working as a pair team? The questions must be raised.

The author is a third year student in social sciences at the London School of Economics and Political Science.

BOOKS

Soviet indecision in the Czech crisis

Public veto

fewest scruples and the best access to the media would become very powerful. How could inconsistent decisions be avoided under this system? Would it produce a more honest and tolerant community?

The referendum fashion is gaining because of a common misinterpretation of the events of 1977-78. It is claimed that the referendum on devolution was a great success because it demonstrated that politicians were out of touch with public opinion. In fact, the devolutionary legislation only passed the Commons because MPs were able to shed part of the onus of decision. The proposal was a compromise which relieved a sense of responsibility among legislators and makes them more willing to vote as their leaders wish. Without the referendum carrot, devolution would have been unacceptable in Westminster and the Genetics Commission would have been set up six months earlier; that I find a perceptible outcome.

P. G. Richardson

P. G. Richardson is professor of British Government at the University of Southampton.

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BOOKS

Exploding the myths about foxes

The Red Fox
by H. G. Lloyd
Haver, £15.00
ISBN 0 7134 1190 2

Foxes, so an old fable by Aelian has it, may urinate into the mouth of a curled-up dog to provoke him to uncurl and hence permit the fox to deliver the coup de grace while avoiding a prickled snout. This tale may seem a bit bizarre, but only until one learns of the tremendous subtlety of the fox's "real" behaviour that modern scientific enquiry has unearthed: foxes that can detect the faintest mouse squeal, disperse over enormous distances, elude the attentions of the most ardent hunters and thrive in capital cities throughout Europe. They even have a complicated communication system which involves doubling olfactory signals throughout their ranges with various glanular secretions and frequent leprocking. Come to think of it, as foxes urinate mark upon almost every conspicuous object they encounter, maybe that is what was happening to the unfortunate Judogod on which Aelian based his idea. The libraries full of medieval epic poems and ballads in which fox stories abound (more than 100 in the *Canterbury Tales*) probably all owe their origins to chance and possibly misinterpreted observations by countrymen—flocks of small birds really the foxes chasing the fields like a local congregation, and foxes do occasionally chase their own tails. Asop-fashion. But only by one myth and being replaced by facts, no less extraordinary than their predecessors, and in his book, *The Red Fox*, H. G. Lloyd has revealed, with encyclopaedic thoroughness, exactly what is really known about these creatures.

In the introductory pages of his book Lloyd admits that it is not written for any specific readership, but rather that it may appeal to anyone, from parliamentarians to school children, who has an interest in foxes. I suspect that this is the type of book into which readers will dip for information, to calm fears and to urinate.

The bibliography is compendious and includes literature on many topics, among which the only subject deliberately kept to a minimum is rabies. The topics embrace basic anatomical information (the direction of hair tracts, the angle of forward vision), through more "fancy" sections on the diet, breeding, biology and population dynamics of foxes (including the extraordinarily flexible limits of population density that have been discovered, and the diversity of habitats which the species inhabits).



Adult male fox.

Next, there is a section on the movements of foxes and this is where Gwyn Lloyd reveals his intimate knowledge of the animals he has studied for more than a decade. He describes the perplexing adventures of individual foxes, equipped with radio collars that have enabled their movements to be monitored by night across wind-swept Welsh hills, and beneath the untidy haze of halcyon shapshaws. The results each differ, one from the next, and are investigating in that they do more to highlight our ignorance than to console our complacency.

Foxes like George, Agnes and Victoria obviously led Lloyd and his colleagues in a merry dance, and one can almost feel the frustration that must have thumped into his typewriter keys as Lloyd records how days were spent stalking within yards of a radio-equipped fox which could never even glimpse, so stealthily did it hug the hillsides. The personal life histories in this chapter are, for me, the most exciting section of the book. If I have a regret it is that I know Gwyn Lloyd has many more such tales to tell and I wish he had included them, but this is, no,

criticism of this book, just the additive desires of a fellow foxophile.

This book very nearly falls into two distinct sections, one on the fox biology and one on fox interactions and the problems of fox control with man. The second section is interesting in that it draws together diverse information from sources which do not necessarily make amicable bed-fellows. Lloyd chooses his words carefully in places, and the reader should be on the alert for the quiet humour that flits through understated paradoxes that complicate the relationship between fox and man, and indeed the countryside as a whole. It is interesting to see the hill sheep farming subsidy so neatly dissected out as a cosmetic contribution to the Welsh landscape, and the sections on the interplay between farming and wildlife are complemented by other snippets, such as the impact of myxomatosis on Lloyd's other main love, the rabbit.

The chapters on fox control are bound to be searched avidly by those grasping for ammunition to discharge on the field-sports battlefield. Lloyd actually meets this desire in his readership with full frontal disclosures; he is not a hunting man, and he clearly sees the cruelty in ending a life as the pressing cause for concern, rather than the "squalid deaths" through many other means which await men, perhaps the majority, of foxes. On this score, there are important instructional paragraphs on the weight of shot and type of gun which may be considered humane for shooting foxes, and there are harsh warnings for those who ignore these recommendations.

The book is illustrated with 28 black and white plates. Perhaps, some of the plates fail to do full justice to the grace of one of the most beautiful animals in the world, but most of them, in a different context, says everything there is to say about the extraordinary, almost manic response that foxes evoke from observers very normal people. The picture shows a fox, pointing to a Welsh hamlet whose name contains a remarkable number of consonants. Hanging from the sign, by the twisted wire of a wire, is a throttled red fox. In the background, a red fox, a tortured death, blurs the landscape that farmer focuses on fox. Those who can read Welsh may notice the irony on the other arm of the sign—it points to the Red Cross!

David W. Macdonald

David W. Macdonald is a research fellow in the department of zoology at the University of Oxford.

Hepatitis

Hepatitis Viruses of Man
by Arle J. Zuckerman and Colin A. Howard
Academic Press, £16.90
ISBN 0 12 782150 3

In a field where many thousands of original papers are published each year, it is with some relief that virologists must welcome the publication of this review monograph. In the past decade our knowledge of the viruses infecting the liver has expanded from little more than basic epidemiology to a situation where hepatitis virology is a very sophisticated science using advanced techniques now being introduced into the more traditional fields of diagnostic virology.

The authors, Professor Arle Zuckerman and his colleague, Dr Colin Howard, have been and continue to be at the centre of some of the most interesting work on the hepatitis viruses. Their work on the transmission of human hepatitis viruses to nonhuman primates is worthy of particular mention and well covered in this volume.

Hepatitis Viruses of Man is the second in a series of review monographs on experimental virology and as such will be an essential addition to every virology library. As a review of current knowledge and the most recent advances in the field, it should be of interest to a wide range of generalists. The chapter on the nature of hepatitis B virus, reviewed fairly comprehensively, underpins the techniques and principles involved in experimentation at the molecular level and, as would be expected, the review of immunopathogenesis may be beyond the casual medical reader. The general chapters on the history, epidemiology, clinical features, especially the possible chronic sequelae of infection, and the nature of the carrier state, however, are comprehensive, very clearly written and easily understood.

Although the description of histological changes in virus-infected liver are stated in detail, there are no illustrated examples from the literature. The book would have been a more useful reference work, but there are several biological techniques specifically used in hepatitis B investigations which, I feel, should have been illustrated. A serious omission is the lack of electron micrographs of infected liver cells illustrating the morphology and location of the various hepatitis viruses. These do not require colour reproduction and are extremely interesting as well as a theoretically pleasing aspect of hepatitis virology. These omissions will disappoint the interested pathologist.

Hepatitis B is well known to be a problem in the transfusion of blood and the administration of blood products. The various hepatitis viruses will become similarly so, making the requirement for a screening test for these viruses imperative. Future editions should have more to tell us about the biology, epidemiology and immunology of the non-A, non-B hepatitis virus in post-transfusion hepatitis in this country, and of their role in chronic liver disease.

Work on a hepatitis B vaccine is well advanced, but I am glad to read that the authors "caution" against its use. I am also glad to read that it is also being used in the field of chemotherapy with antiviral drugs (including interferon) may be able to cure chronic liver disease and eventually perhaps be able to clear the carrier state or at least reduce the infectivity. With an estimate of at least 176 million infections carriers in the world, any reduction in this number would be of benefit to us all.

There is much that still remains to be understood, especially the mechanisms of infection, development and maintenance of the carrier state in hepatitis B (and possibly non-A, non-B), but this book brings us nicely up to date with the most recent developments and provides us with an extensive and comprehensive bibliography on the subject.

Elizabeth H. Boxall

Elizabeth H. Boxall is in the Hepatitis Reference Laboratory at the University of Birmingham.

Measures of the fossil record

Invertebrate Palaeontology and Evolution
by E. N. K. Clarkson
Allen & Unwin, £15.00 and £7.95
ISBN 0 04 560007 4 and 560008 2

Microfossils
by M. D. Brasier
Allen & Unwin, £12.00 and £6.50
ISBN 0 04 562001 6 and 562002 4

Clarkson's book has been available for most of the academic year and so has been tested in practice. He has three introductory chapters of which the first on general principles is by far the longest. It deals briefly with the nature of fossils and then has a somewhat rambling coverage of all the subdivisions of the subject you can think of, including taxonomy, statistics, communities, trophic levels, reefs, ichnology, and so on.

The second chapter deals more specifically with evolution and the third (and shortest) one with the origin and early diversification of the invertebrates. These chapters have useful reference lists which are annotated. If only with the one word "Advanced", and thus should be of more help to students.

Part two, which forms the bulk of the volume, is devoted to eight chapters on the principal invertebrate macrofossil groups and a final chapter on three exceptional faunas. The amount of space devoted to sponges (13 pages), Cnidaria (33 pages), Bryozoa (10 pages), brachiopods (32 pages), molluscs (52 pages), echinoderms (49 pages), graptolites (30 pages) and arthropods (45 pages) perhaps reflects the standard balance between the groups in most palaeontological courses. Each chapter has an account of the biology of the group, with the main anatomical terms emphasized, good line drawings of some principal types and occasional photographs (holotype specimens). The descriptions are usually only to the generic level but the stratigraphic range of each genus is given. There is discussion of palaeoecology and biogeography where important but (except in the case of the arthropods) the references are not detailed.

The discussions are up to date and many of the references (which are annotated like those of the introduction) are in the 1970s. For some of the higher groups (for example brachiopods and echinoderms) two or three selected genera are described in detail as examples to illustrate the technical terms. The text and illustrations are excellent and the book is a very useful addition to the laboratory as a follow-up to for even replacement of lecture notes, there is not a great deal of practical material. The book is faced with a specimen to identify.

If he can decide which Phylum to start on, he should find many of the technical terms mentioned and illustrated at least once. But if his specimen is not one of the listed types he may be at a loss how to proceed. The book is a very good one for students who will be asked to identify the Phylum (or, invertebrate) of a specimen.

The text is designed to be read as a series of reference snippets. For example, the detailed account of the second brachiopod type (*Vishnella*) assumes that the previous account of *Magellania* has been read; and a student seeking a description of an ordinal like *Vishnella* may well not have done this. From the laboratory practical point of view, therefore, the book is not entirely satisfactory. However, it is packed with interesting details and is extremely readable. It is a pleasure to go on to palaeontological research in any particular group, it needs considerable supplementing. I should for instance find it difficult to start research on ammonites using only this book as a basis. The references to recent papers, however, would provide some insight into current problems.

The chapter on exceptional faunas is a little disappointing. It sup-

plies a useful summary of the current Burgess Shale activity but the comments on the Hunsrück Shale and Mazon Creek faunas are too short to convey the real appeal of the exceptional preservation. And surely the Solnhofen faunas merit as much comment. Clarkson has been just too early to catch the recent review of Mazon Creek fossils (Nitecki, 1979) and he also fails to mention that equally good preservation occurs in the Com Measures of Britain in very similar ironstone nodules.

Microfossils appeared in May of this year and is clearly intended to complement Clarkson's book. Clarkson himself had stated in his introduction that "chemical evolution and microfossils" had to be left out for lack of space. He not only omits ostracods (as microfossils) from his arthropod chapter but also the rest of the Crustacea.

Brasier's book has in some respects a more limited scope and objective. As he notes in his preface, the study of microfossils has assumed greater importance in the general palaeontology during the past 20 years and we have long been in need of a textbook to provide a suitable introduction. Brasier has attempted this in what might be regarded as a standard approach to a chapter devoted to each major fossil group, the length varying with the importance (or what is known) of the group from three pages each on silicoflagellates, chitinozoa and thaliolids to 32 pages on sponges and radiolarians. The short introduction only comments on the nature of living cells and a stratigraphical column. There is very little on the nature and aims of microfossils in general, or, between the groups in most palaeontological courses. Each chapter has an account of the biology of the group, with the main anatomical terms emphasized, good line drawings of some principal types and occasional photographs (holotype specimens). The descriptions are usually only to the generic level but the stratigraphic range of each genus is given. There is discussion of palaeoecology and biogeography where important but (except in the case of the arthropods) the references are not detailed.

Part 1 of the text consists of two chapters (totalling nine and a half pages) on Proterozoites, much of which is taken up with living forms. The rest of the book (some 160 pages) begins with an unnumbered chapter of a page of text on Eucaryotes. The 13 chapters which follow treat the groups systematically and in general fairly completely. Biology and fossil occurrences are discussed and the references to various geological aspects comprehensive.

Innate rhythms

Biological Clocks: their functions and nature
by J. L. Cloudsley-Thompson
Weldensfeld & Nicolson, £8.95
ISBN 0 297 77683 1

Recently there has been increased interest in the subject of biological clocks and "body time". There is also a growing awareness of the long-term balance that must exist between different species and their environment if the ecological system as a whole is to survive. The author of the present volume has aimed to combine the two approaches and show how rhythms in plants and animals enable them to adapt better to their environment. This is an aim that has, to a very considerable extent, been achieved.

Cloudsley-Thompson's approach is based upon three types of observation. First, many components of the environment (for example temperature, light intensity and water availability) vary rhythmically with periods ranging from a day to a year. Second, almost any activity of a living organism (for example, making or eating food, reproducing, or survival) shows a similar range of rhythms. Third, the response of the organism depends in part upon internal timing processes.

The author illustrates these arguments with a very wide range of examples. Each chapter concentrates upon one aspect of the problem (for example, photoperiodism and flowering; rhythms of feeding, predation and dispersal; seasonal adaptations) and considers much of the available evidence by citing examples taken from the whole of the animal and plant kingdoms.

What emerges from all this is the complexity and subtlety which exist in ecological systems. Each reader will remember some example in particular, no doubt, but one which particularly appealed to this reviewer was the example of the locust. Thus, microfilial parasites circulate in the bloodstream of their human victims at certain times of the day and accumulate in the lungs at others. Also, different species can be detected in the blood at different times that are coincident with those when their mosquito vectors are flying. The mosquito rhythms in turn are influenced by many factors, such as competition between species, availability of food, safety from

predators and appropriate conditions of temperature and humidity. Central to the author's argument is the view that the observed rhythms do not arise from the environment (though they can be modified by it) but rather from within the animal or plant itself. Advantages of this internal clock are that an organism can use it to predict and pre-adapt to environmental changes (whether this be to swim away from the shore before being stranded by the ebbing tide or to store food for hibernation or migration) and can also use it to know when it is safe to emerge from the protection of some retreat. These points are stressed clearly enough; as is another advantage, namely, that such clocks enable a synchrony within the population to exist so that the chances of individual being caught by predators are decreased.

One reservation about the book is that the visual illustrations are rather disappointing. First, neither figures nor illustrations are referred to in the text, a particular disadvantage in the case of the illustrations which are lumped together in the centre of the book. Second, they are often of only little relevance; for example, diagrams of different insects do little to amplify the main argument and these might have been replaced by a diagram of the human circadian rhythm. However, these are minor points; the book is clearly written with occasional examples such as a dreaming war-horse or the posture of a healthy sleeping elephant to give lighter relief.

There is a glossary for the reader just beginning in the field of biological rhythms and a full reference list for those wishing to take matters further. Because of the breadth of illustration used by the author, readers will meet "a species of tachinid fly that parasitizes the gonads but not encounter 'the locomotor activity of West Indian fossilized amphipods' and 'worm snakes' but they need not recall. The book fills a gap in the literature and is enjoyable to read; at a time of the year when evidence is all around that another season's rhythms are under way, it can be warmly recommended.

J. M. Waterhouse

J. M. Waterhouse is lecturer in Physiology at the Medical School, University of Manchester.

Time to take stock of the Earth and Moon

Origin of the Earth and Moon
by A. E. Ringwood
Springer, DM75
ISBN 3-540-90363-0

The Earth: its origin, structure and evolution
edited by A. W. Macdonald
Academic Press, £16.90
ISBN 0 12 782150 3

Although the origins of the Earth and Moon are subjects which have long fascinated man, the scientific approach has only recently begun to take shape. The development of the subject has been hampered by the lack of direct evidence, but this has been overcome by the use of indirect evidence, such as the study of meteorites and the Moon. The book is a comprehensive review of the current state of knowledge, and is a valuable addition to the literature of the subject.

The book is divided into two main parts. The first part deals with the origin of the Earth and Moon, and the second part deals with the evolution of the Earth. The book is written in a clear and concise style, and is suitable for both students and researchers. It is a valuable addition to the literature of the subject.

is not a disservice, and other areas are not neglected. The problem is that it seems to have been written by a geologist, and necessarily has many errors and omissions. It is a pity that the book is so flawed, as it is a valuable addition to the literature of the subject.

It is difficult to determine the level at which the book is really aimed. It is a pity that the book is so flawed, as it is a valuable addition to the literature of the subject. The book is written in a clear and concise style, and is suitable for both students and researchers. It is a valuable addition to the literature of the subject.

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that undergraduates will tackle this excellent review. The production is good (only one poorly reproduced diagram), but the index is somewhat lean. It could do with more maps, but that might be crying for the moon (and Earth).

The book comprises a collection of 17 chapters by some 23 authors, all of whom are well known in the field. The book is written in a clear and concise style, and is suitable for both students and researchers. It is a valuable addition to the literature of the subject.

None of the chapters are particularly good, but the one on the Australian Continental Crust (by J. H. Lachlan) is a good example of the quality of the book. The book is written in a clear and concise style, and is suitable for both students and researchers. It is a valuable addition to the literature of the subject.

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D. H. Tarling

D. H. Tarling is a senior lecturer in the department of geology at the University of Newcastle upon Tyne.

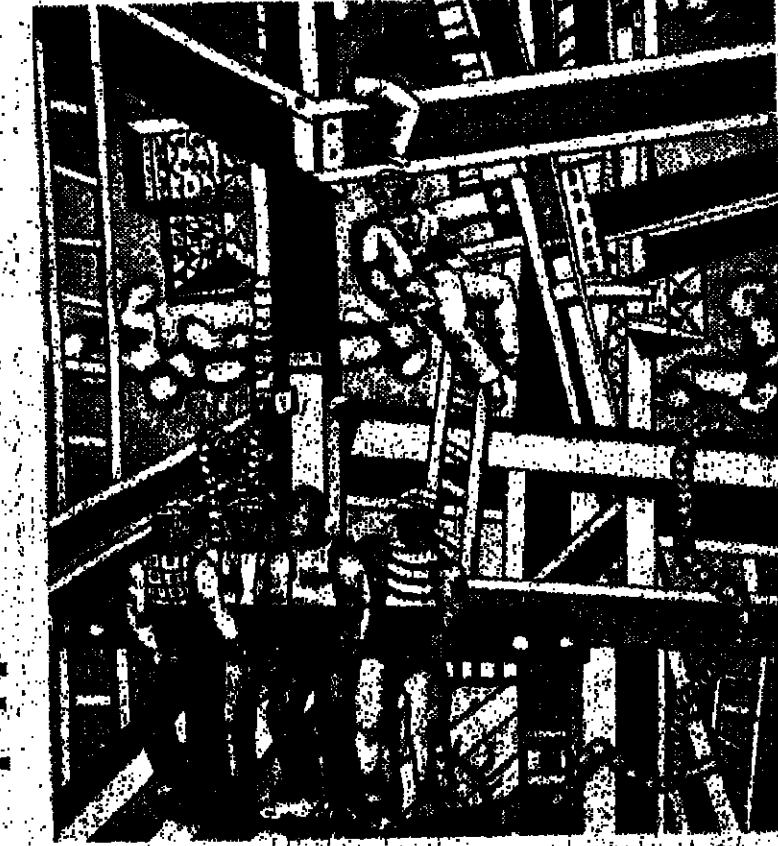
Sequel to the world's bestselling art book The Story of Art

In telling the story of modern art from 1900 to the present day Norbert Lynton has aimed at helping the reader to form a relaxed and sympathetic relationship to this art while providing information about it. He brings out the motives behind the main developments and stresses surviving traditions, pointing to continuities and echoes within modern art, and major differences between artists identified with the same movements and slogans. He sees no essential break or opposition between modern art and the art of the past and argues that more attention should be paid to the inner content of works of art and less to their superficial material and stylistic character.

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THE STORY OF MODERN ART



John Lynton

Papua New Guinea Schools Advisor International Schools Curriculum Development Officer Staff Development Officer

Applications are invited for the following senior posts with the Department of Education, Papua New Guinea Government.

Schools Advisor— Level 17

The Schools Advisor is the senior professional officer with responsibility for assisting international primary schools in maintaining and improving the quality and effectiveness of the curriculum of these schools. The appointee should be well read professionally with desirable post-graduate qualifications in some relevant aspect of professional education. Extensive experience in primary education in a developed country or in international standard schools in other countries will be necessary. This experience should have included responsibilities at a senior supervisory level for staff and course development. Ref: VIS/EDUC-EXST/33.

Curriculum Development Officer (Technical Education)—Level 18

To be responsible principally for the production of up to date syllabi, lecture notes etc. together with the preparation of examinations and compilation of banks of questions to meet the needs of training in PNG. A degree, diploma or equivalent qualification together with extensive industrial experience and sound theoretical knowledge of industry essential. It is desirable that candidates have successful teaching experience consisting of duties in positions of increasing responsibility up to Senior Lecturer and have a wide knowledge of technical or other industrial training schemes. Ref: VIS/EDUC-TECH/32.

Staff Development Officer— Level 18

To oversee recruitment and training of National Teachers/Lecturers, develop programmes ensuring the effectiveness of training and the preparation and implementation of in-service courses for teachers/lecturers. A degree, technical college diploma or Higher Trades Certificate in engineering or commerce essential. Industrial or commercial experience in a technical environment

together with teaching qualifications and/or teaching experience will also be necessary. Ref: VIS/EDUC-TECH/32.

Rewards

Payable in Kina. The pound equivalent figures will fluctuate due to movement in exchange rates. The exchange rate on 23rd June 1980 was K1.54 to £1 Sterling.

Level	Salary
17	K14,660 (£9,520)
18	K15,560 (£10,103)

Plus

- * 3 year contract (renewable in most cases).
- * Gratuity of 24% p.a. of annual salary. Gratuity is taxed at flat rate of 2%.
- * Virtually free married or single accommodation.
- * Air fares to and from PNG at commencement and expiry of contract.
- * 6 weeks annual leave with return fares to U.K. during 2nd year of contract (including accompanying dependants).
- * Free Primary Schooling, Free Secondary Schooling (Port Moresby and Lae only).
- * Generous education subsidies (fees and fares for dependent children attending school overseas).

Please write or telephone, quoting appropriate reference for application forms (to be completed in duplicate) and further details to:

The Recruitment Attaché, Papua New Guinea High Commission, 14 Waterloo Place, London SW1R 4AR. Telephone: 01-930 0922. Closing date for applications 8th August 1980. Anticipate interviews August and early September. Candidates not available for interview in the U.K. should not apply.

Papua New Guinea

NEW SOUTH WALES INSTITUTE OF TECHNOLOGY SYDNEY, AUSTRALIA FACULTY OF HUMANITIES AND SOCIAL SCIENCES PRINCIPAL LECTURER SENIOR LECTURERS (2)

The faculty offers a B.A. (Communications) degree providing students for professional work in such fields as film, radio, television, journalism, writing, public relations, and advertising, provides extensive servicing courses for other facilities in various humanities and social sciences, and supervises graduate students. Its professional teaching is supported by an effective media centre where students obtain supervised production experience in radio, television and film.

Applications are invited from persons qualified in any of the recognized areas of humanities and social sciences. At present, some of the areas where recruitment is desirable are those of film, television, applied psychology, various kinds of written and oral communication, and communications between persons and within groups and organizations. Serious consideration will be given to an applicant's capacity to accept responsibility for some of the management and development of broad areas in the academic work of the faculty, such as the servicing work, or the media production courses, or face-to-face communication, or the use of written or spoken language in various fields of communication, and so on.

Applicants should have high academic qualifications (normally a higher degree is required), experience in teaching, research and administration, and/or when appropriate, experience in professional practice. These positions have been previously advertised but the closing date has now been extended to 15th August 1980.

CONDITIONS AND METHOD OF APPLICATION

Salaries for these positions are as follows:
PRINCIPAL LECTURER \$A27,843 (level 3) \$A28,111 (level 4) \$A30,105 (level 1)
SENIOR LECTURER \$A22,842-\$A28,022 p.a.

Fares and contribution towards travel and initial accommodation expenses are provided for overseas appointees. A housing loan scheme is also available. With consent of council, academic staff are permitted to undertake limited consulting work.

Applicants should arrange for three confidential referees to arrive by the closing date. Applications should include address, phone number, personal particulars, documentary evidence of qualifications, work and teaching experience, affiliations, publications and the name of those referees nominated.

Applications, referees reports and enquiries to be referred to: The Agent General, New South Wales Government Offices, 88 Strand, London, WC2N 5L2.

UNIVERSITY OF IBADAN IBADAN, NIGERIA

Applications are invited from suitably qualified candidates for the following vacancies:
Food Technology—Professor; Lecturer I; Lecturer II; Lecturers I/II.
Mechanical Engineering—Professor; Sen. Lecturer; Lecturers I/II.
Agricultural Engineering—Sen. Lecturer; Lecturers I/II.
Forestry/Wood Processing Engineering—Professor; Sen. Lecturer; Lecturers I/II.
Petroleum Engineering—Professor; Lecturers I/II.
Civil Engineering—Professor; Lecturers I/II.
Electrical Engineering—Professor; Sen. Lecturer; Lecturers I/II.
Industrial Engineering/Engineering Management—Professor; Sen. Lecturer; Lecturers I/II.

Salaries: Professor G.L. 18 N11,588-N14,120; Sen. Lecturer G.L. 13/14 N10,064-N11,512; Lecturer I G.L. 12 N 7,404-N 8,856; Lecturer II G.L. 10/11 N 5,780-N 7,232. N1 = 80p approximately.

Conditions of Service: Appointments on permanent or contract basis. Contract appointments attract an addition of 25% of basic salary. Part-furnished accommodation. Passages for self, wife and up to five children.

Method of Application: Four typewritten copies of curriculum vitae stating full name, date and place of birth, current postal address and telephone number. Nationally, marital status, educational qualifications with dates, posts held with details of publications, names of three referees who know you professionally. Applicants should request the referees to forward confidential reports to:

Principal, Faculty of Engineering (Recruitment), Nigerian Universities Office, 180 Tottenham Court Road, London W1P 8LE.

To whom inquiries for further particulars and areas of specialization required should be addressed.

The tenuous task of holding on to a job

In these days of economic uncertainty the whole question of job security has arisen. Points are made in Parliament about the job security of people in public sector employment, and sometimes the universities are singled out because staff have what is known as "tenure". From a personal point of view I am now almost sick to death of pointing out two facts of life which have not got through to politicians, unknown members of the public and some unknowing academics within the university system itself.

First, as far as what are called "tenured staff" are concerned, there is no more security than exists in the rest of the public sector and in the large corporations in the private sector, at least as far as professional and white-collar staff are concerned.

In the same way as staff in any job can be sacked for dishonesty or for long periods of ill-health, out for some major breach of contract in relation to work, so can the university teacher under good cause provisions. In fact in a question in Parliament about four years ago we discovered that in a two-year period more than 100 university teachers had been removed from their jobs than scientists and administrators in the Civil Service. The white-collar and professional staff in the big private corporations, oil companies, big chemical companies, etc. have just as much job security and protection as those academics with tenure.

Second, the universities maintain a hiring and firing system which is in effect a big temporary fringe and which if applied amongst professionals and white-collar staff in

industry or in the Civil Service would cause a first-class scandal. Something between 15 and 20 per cent of the university labour force now consists of people on short-term contracts who are serving in temporary posts and as part-timers. What happens is that these are the groups of staff who by the very nature of their employment are at the greatest risk and are disposed of quite regularly. If there is any financial stringency these are the people who disappear from the university scene.

What is worrying about this whole situation is that the number of these people have been steadily increasing and they are being used in some universities as nothing more than a source of cheap labour. AUT has always argued that for a person to do university teaching it is important that they become good university teachers by doing research, yet part-timers are being taken on who are only being paid for the teaching work that they do without any allowance in their remuneration for time to carry out research. Temporary staff are also being taken on for such short periods—say on an academic year—so it is impossible for them to have even to plan and execute an adequate and satisfactory personal research programme.

AUT

Research contracts are now being effected where individuals are as little as one academic year, and one wonders what kind of service these individuals. Some of the people concerned—in spite of these difficulties—make every attempt to be able to operate fully in universities and conscientiously do much more than they are paid to do; and yet their efforts

are not appreciated either by way of remuneration or consideration when they wish to apply for one of the few full-time tenured posts which do occur.

AUT has held the view that there is a case on occasions for temporary appointments to be made when someone is away from the university for a year and cover is required—perhaps if a staff member is away on long-term sickness and student lectures need to be given. Sometimes it is decided to begin courses on an experimental basis. Someone is taken on to develop a course and work is carried out with the university being certain that the course is to become a permanent feature within the department or institution. We recognize all this but in some cases temporary staff are being taken on with no security at the lowest possible point on the salary scale which can be paid merely because at some stage the university may face financial difficulties, and that person can be disposed of readily and easily.

This is not the way to run a university, and with the numbers of people growing in the categories I have described all concerned will have to re-think the situation with a view to stopping what amounts to a gentle form of exploitation of young people and married women who are trying to re-establish a career in a university after an absence for family reasons.

When people talk about job security in the university sector their attention might be drawn to the very large temporary fringe of staff that exists, and to the fact that some universities operate a system of hiring and firing which is no credit to the ideals for which they stand.

Laurie Sapper

The author is General Secretary of the Association of University Teachers.

Beware of using Starsky as a crutch



Robin McKie

There are bound to be problems for any nation raised on a cultural diet of Charlie's Angels, Starsky and Hutch and Dallas, when it is found that life is not to be a happy stream of large blondes, incoherent jokes and charming villains.

Not surprisingly, countering these escapist desires can be a tricky business for those determined enough to try to inoculate any feeling of curiosity about the nature of the real world outside the television studio.

This problem was highlighted at a recent visit to the Houston Space Centre in Texas where the National Aeronautics and Space Administration has assembled a fascinating collection of exhibits for public

consumption in a bid to encourage some scientific interest among the populace. These include the last Apollo moonshot capsule, a lunar landing module and many other remnants of past space programmes.

But it has not proved quite such a public tour of the now legendary Houston mission control room—centre for all the Apollo moon missions and for future space shuttle launches—produced only by may from assembled tourists.

Then there was the size of the control room which was far too small for the liking of the attendant hordes. In fact, said tour guide, Walter Cronkite did not even visit the centre when he covered the first lunar landings.

And that's really it: if reality can't compete with the Disneyland reproduction, they're in trouble. Fortunately they are at least a persistent lot across the Atlantic in an exhibition determined to combat the glittering allure of television, the Washington Air and Space Museum has been created to include a staggering array of displays and historic works of flight technology.

Exhibits include the original Kitty Hawk and Spirit of St. Louis planes; Mercury, Gemini and Apollo capsules; a Skylab mock-up, V1 and V2 rockets; moon rocks; early space suits; and a host of other items. The museum is a spectacular film show.

The overall result is a marvellous and exhilarating experience for both adolescent and adult alike. The museum, by enticing through the spectacular, the imaginative, is a splendid example of the current state of museum development.

Now it is easy (and fun) to mock the motivation for these transatlantic movies but they do highlight a general problem of how one makes science and technology accessible to a public significantly less sophisticated than the scientists.

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Don's diary

Monday

9 am. The academic board of the college, comprising all 43 members of staff, assemble in the senior common room at the start of a two-day conference on course development. The principal enters, accompanied by the college solicitor. The latter's presence is unusual. A special announcement: News has just reached the principal that the college will cease to train teachers. It is to close... stunned silence. Disbelief. Redundant.

Friday

Arrive outside the unemployment office. Deep breath and push through door into crowded room. All ages seem to be represented—perhaps a typical cross-section of the one-and-a-half-million the government talks so glibly about. To judge from the haze, Silk Cut is no less popular. The counter is open and personal affairs are discussed publicly. This alarms me but no one else appears concerned. Perhaps I should not have worn my suit and tie, but they are my only comfort. I fill in forms, and find that the complications of actually acquiring money this way make the pre-Birken situation quite straightforward by comparison.

Discover there is no retrospective signing on. The first two days therefore are lost unless I make a special claim. The assistant thinks it hardly worth the bother, and also it would require a totally different form. I cannot claim for the first three days anyhow, so what the hell, my benefit will not begin until the sixth day, and then on a daily basis. To earn more than 75p in one day means losing it, although the assistant concedes that 75p is not a lot of scratch. Nor does he know of any place where such an amount can be gained legally. It is not surprising that moonlighting is such widely spread, day and night. To give the occasional one-hour lecture would cost me dearly. Oh well.

Tuesday

Place weekly order for THES and TES. Dismissed to find the educational world somewhat indifferent to my re-entry into the situation, vacant lists. Try to remember those long forgotten phrases implying initiative and ready acceptance of new and challenging responsibilities. Apply for Open University post. Looked to college principal for support. He smiled and confessed to applying for the same job. Am such an amount can be gained legally. It is not surprising that moonlighting is such widely spread, day and night. To give the occasional one-hour lecture would cost me dearly. Oh well.

Increasingly aware that economic cuts are biting into the traditional college courtesies and civilities. Written or even printed acknowledgment of job applications assume rarity value of late nineteenth century Chinese share certificates. Would a row-two or two help? It seems unlikely.

Wednesday

Intensify efforts. Perhaps Inland Revenue might offer tax relief on growing cost of job hunting. Attempt to persuade family not to worry. Trust me; all will be well. Fresh opportunities? Great men of history cannot be denied; professional enemies not yet organized. Wonder who is blurring whom? Applaud generously—though with increasing difficulty—colleagues who manage to find redeployment in an alternative career. Can protection of salary really justify the demands of a Scale 2 teaching post for the next 20 years?

Recalled my Fink, Beak and Taddeo, and that's only one article. The likes of Lewis and Lloyd don't have Fink's conceptual framework of organizational decline might well be confirmed by my own personal experience. There is the initial shock and the period of defensive retreat, followed by the acknowledgment and finally the arrival, like the American cavalry, of adaptation and change. There remains one major cause for concern. It is as if the principles of the game have been changed. Picked up Graham Greene's latest novel. Rivetted. If that's the standard there seems little point in unwrapping the typewriter. Perhaps I should be more market-oriented and keep a diary like Don.

"Pique rings" is the head of the local comprehensive school. He has four sons in Paris and three others studying in London, presumably locally. Can I help? Well, I was going to become a full-time writer. What's the daily rate for supply teaching? A much more? Miss O'Leary, the Civics with the fourth year. In business again. Lovely.

Thursday

The academic year begins with unemployment. Wonders as to whether it will be less disturbing than the 22nd of October. At least there will be a degree of security in the dole. Yet a glance at the calendar suggests further irony. Attempting to plan memorably the most significant day in (my own or) my professional life. The first day of September. It is a Saturday. The unemployment office is closed. I cannot even sign on.

Call in village post office for stamps. "On holiday again" is the greeting. Resolve to have unemployment benefit paid through larger more anonymous (and more inconvenient) post office.

Saturday

Visit former colleague who secured post in newly-formed institution of higher education. He seems very low and believes he is typical. It emerges that the hopes and challenges of James (who?) of the better-remembered Framework for Contradiction and of the lego-like mergers for survival seem faded and depressed. Admittedly like change, especially if it means a demand of new roles and expectations. Some drop in morale must be expected. But the general malaise goes deeper. Job security, course numbers declining, secondary school populations, the stilling of promotion opportunities and the inter-site travel all seem to be sapping the energy and purpose of senior common rooms. Nor are there any signs of immediate improvement.

Go racing at Catterick Bridge. Shouldn't have. The climate is even depressing the favourites.

Sunday

A day of decisions. I shall become self-employed as a writer. It's only a question of discipline. That's what the Priestleys of this world would say. Three hours of writing each day. Remains to be seen if I can do it. I shall be writing for the dole. Picked up Graham Greene's latest novel. Rivetted. If that's the standard there seems little point in unwrapping the typewriter. Perhaps I should be more market-oriented and keep a diary like Don.

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The author is a former principal lecturer and head of the history department at Darlington College of Education. He became redundant on the college's closure.

Alan Earl

UNIVERSITY OF CAPE TOWN
Postgraduate awards tenable at the University of Cape Town in 1981

The University of Cape Town offers the following awards for the postgraduate study of students who are holders of a B.A. or B.Sc. degree from a South African university.

1. **University of Cape Town Postgraduate Award**—This award is given to a student who has achieved a first class honours degree in any of the following subjects: B.A. (Hons) in History, B.A. (Hons) in English, B.A. (Hons) in Law, B.Sc. (Hons) in Mathematics, B.Sc. (Hons) in Physics, B.Sc. (Hons) in Chemistry, B.Sc. (Hons) in Botany, B.Sc. (Hons) in Zoology, B.Sc. (Hons) in Agriculture, B.Sc. (Hons) in Forestry, B.Sc. (Hons) in Engineering, B.Sc. (Hons) in Architecture, B.Sc. (Hons) in Fine Arts, B.Sc. (Hons) in Music, B.Sc. (Hons) in Education, B.Sc. (Hons) in Social Sciences, B.Sc. (Hons) in Health Sciences, B.Sc. (Hons) in Environmental Sciences, B.Sc. (Hons) in Planning, B.Sc. (Hons) in Urban Studies, B.Sc. (Hons) in Development Studies, B.Sc. (Hons) in International Studies, B.Sc. (Hons) in Peace Studies, B.Sc. (Hons) in Human Rights, B.Sc. (Hons) in Gender Studies, B.Sc. (Hons) in African Studies, B.Sc. (Hons) in Asian Studies, B.Sc. (Hons) in Latin American Studies, B.Sc. (Hons) in Middle Eastern Studies, B.Sc. (Hons) in European Studies, B.Sc. (Hons) in American Studies, B.Sc. (Hons) in Australian Studies, B.Sc. (Hons) in New Zealand Studies, B.Sc. (Hons) in Pacific Studies, B.Sc. (Hons) in Oceanic Studies, B.Sc. (Hons) in Antarctic Studies, B.Sc. (Hons) in Arctic Studies, B.Sc. (Hons) in Polar Studies, B.Sc. (Hons) in Subarctic Studies, B.Sc. (Hons) in Subtropical Studies, B.Sc. (Hons) in Tropical Studies, B.Sc. (Hons) in Desert Studies, B.Sc. (Hons) in Mountain Studies, B.Sc. (Hons) in Coastal Studies, B.Sc. (Hons) in Island Studies, B.Sc. (Hons) in Archipelago Studies, B.Sc. (Hons) in Peninsula Studies, B.Sc. (Hons) in Isthmus Studies, B.Sc. (Hons) in Strait Studies, B.Sc. (Hons) in Bay Studies, B.Sc. (Hons) in Fjord Studies, B.Sc. (Hons) in Inlet Studies, B.Sc. (Hons) in Sound Studies, B.Sc. (Hons) in Harbour Studies, B.Sc. (Hons) in Bay of Fundy Studies, B.Sc. (Hons) in Bay of Bengal Studies, B.Sc. (Hons) in Bay of Biscay Studies, B.Sc. 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